

“A Conceptual Model for Addressing Buyer-Seller Trust Relationships in Online Auctions”

by

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Introduction

- Secondary market e-commerce sites are gaining popularity (e-Bay, Amazon.com, ubid.com)
- Online auction fraud still remains top complaint of all Internet fraud
- Consumers still remain reluctant in shopping online because of trust-related issues
- Trust-building mechanisms are used in online auctions to build consumer trust

Trust-Building Mechanisms

- **Payment Assurance Services**
Ex: PayPal
- **Escrow Services**
Ex: Escrow.com
- **Reputation Feedback Systems**
Ex: e-Bay's Feedback Forum

Reliance on Institution-based Mechanisms

- PayPal Payment Assurance Service
 - Total accounts grew from 40.3 million users in 2003 to 63.8 million users in 2004 (eBay 2004)
 - Total of payments transacted in 2003 was \$12.2 billion and \$19 billion in 2004
 - Provisionary losses for losses incurred due to fraud was \$34.4 million in 2003 and \$50.5 million in 2004
- Research conducted by Pavlou & Gefen (2005) suggests that payment and escrow services are not trust-building but risk-mitigating mechanisms

Problem Statement

Even though some researchers have found that feedback systems contribute to the perception of trustworthiness, feedback systems are not robust enough to build trust in a community of buyers and sellers. This is because they do not address the significant trust-related issues that make consumers apprehensive about purchasing online and therefore there is a growing reliance on institution-based risk mitigation mechanisms.

E-Commerce

- Total e-commerce sales are steadily growing
- The U.S. Dept. of Commerce estimates that e-commerce sales totaled \$69.2 billion in 2004
- The total e-commerce sales represents about 1.9% of total retail sales

Total E-Commerce and Total Retail Sales (Years 2000-2004)

Year	Total E-Commerce Sales (in billions)	% Change from previous year	Total Retail Sales (in billions)	% Change from previous year	E-Commerce Portion of Total Retail Sales
2000	\$28.3	Not available	\$3071.7	Not available	0.9%
2001	\$34.6	22.2%	\$3153.3	2.7%	1.1%
2002	\$43.5	25.6%	\$3245.4	2.8%	1.3%
2003	\$54.9	26.3%	\$3421.9	5.4%	1.6%
2004	\$69.2*	23.5%*	\$3648.8*	7.8%*	1.9%*

*estimate

Information taken from U.S. Department of Commerce E-Commerce Quarterly Reports

E-Commerce

There potentially is more ground to be gained by e-commerce sales!

Online Auctions

- Provides a vehicle for a secondary market (previously garage sales and flea markets) to be viable without geographical boundaries or unrealized values
- Forrester Marketing forecasts that online auction sales will grow to \$54.3 billion by 2007
 - Represents 25% of forecasted total e-commerce
- Online auction fraud continues to be top complaint
 - Internet Fraud Watch 2004

Social Trust

- Numerous definitions of trust exist
- Common attributes of trust from the literature:
 - Subjective and agent specific
 - Not transitive
 - Not absolute, resides on a continuum
 - Willingness to be subjected to potentially opportunistic behavior to achieve an outcome
 - Involves risk and can end in a positive or negative outcome

Mayer's Definition of Trust

Most commonly referred to definition of trust is Mayer et al's (1995):

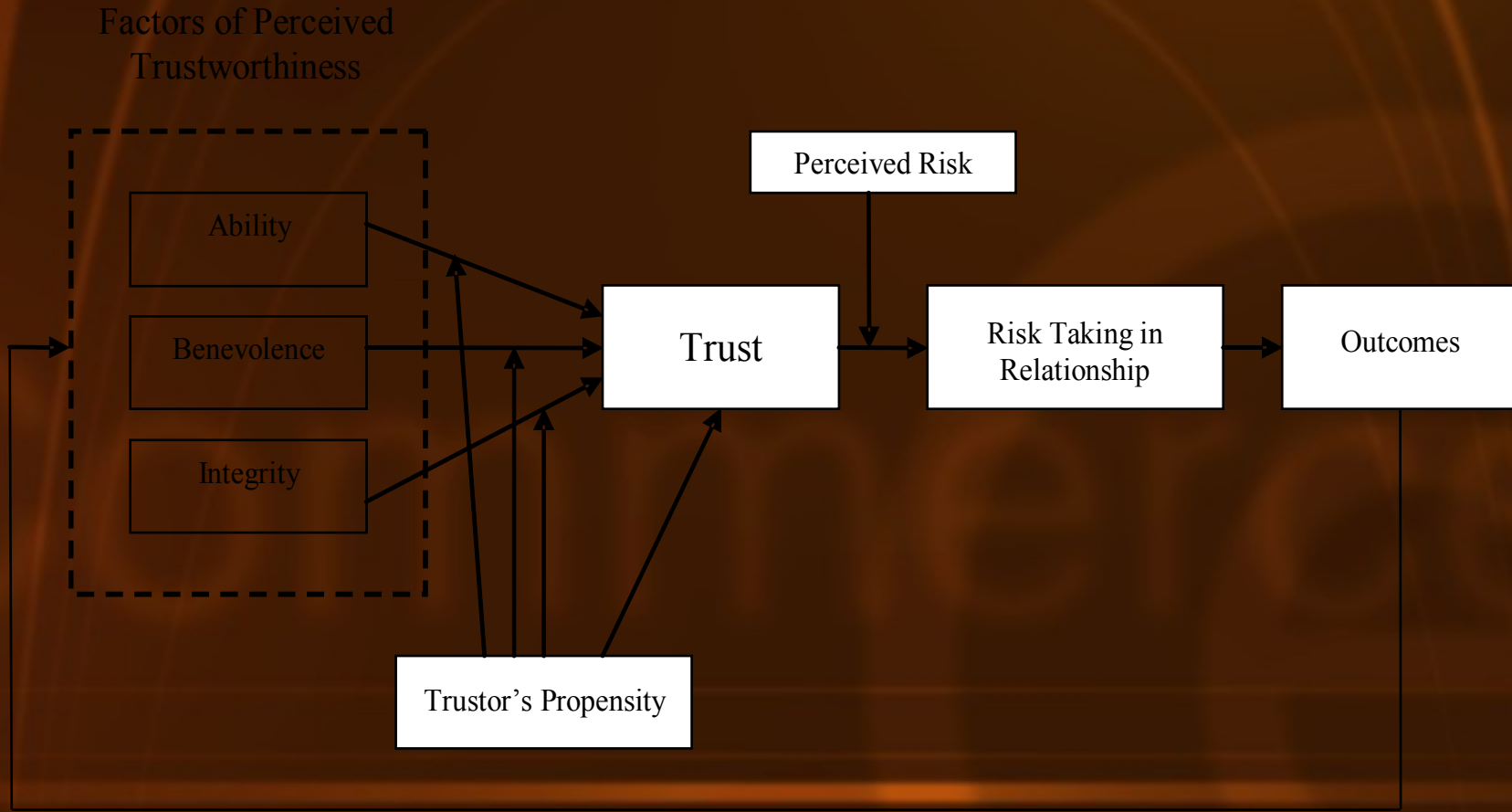
“Trust is the willingness of a party to be vulnerable to the actions of another party based upon the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control the other party”

Initial Trust in Social Relationships

Antecedents to Trust:

- Trustor's propensity to trust
- Factors of perceived trustworthiness of the trustee
 - Ability
 - Benevolence
 - Integrity

Mayer's Model of Initial Trust



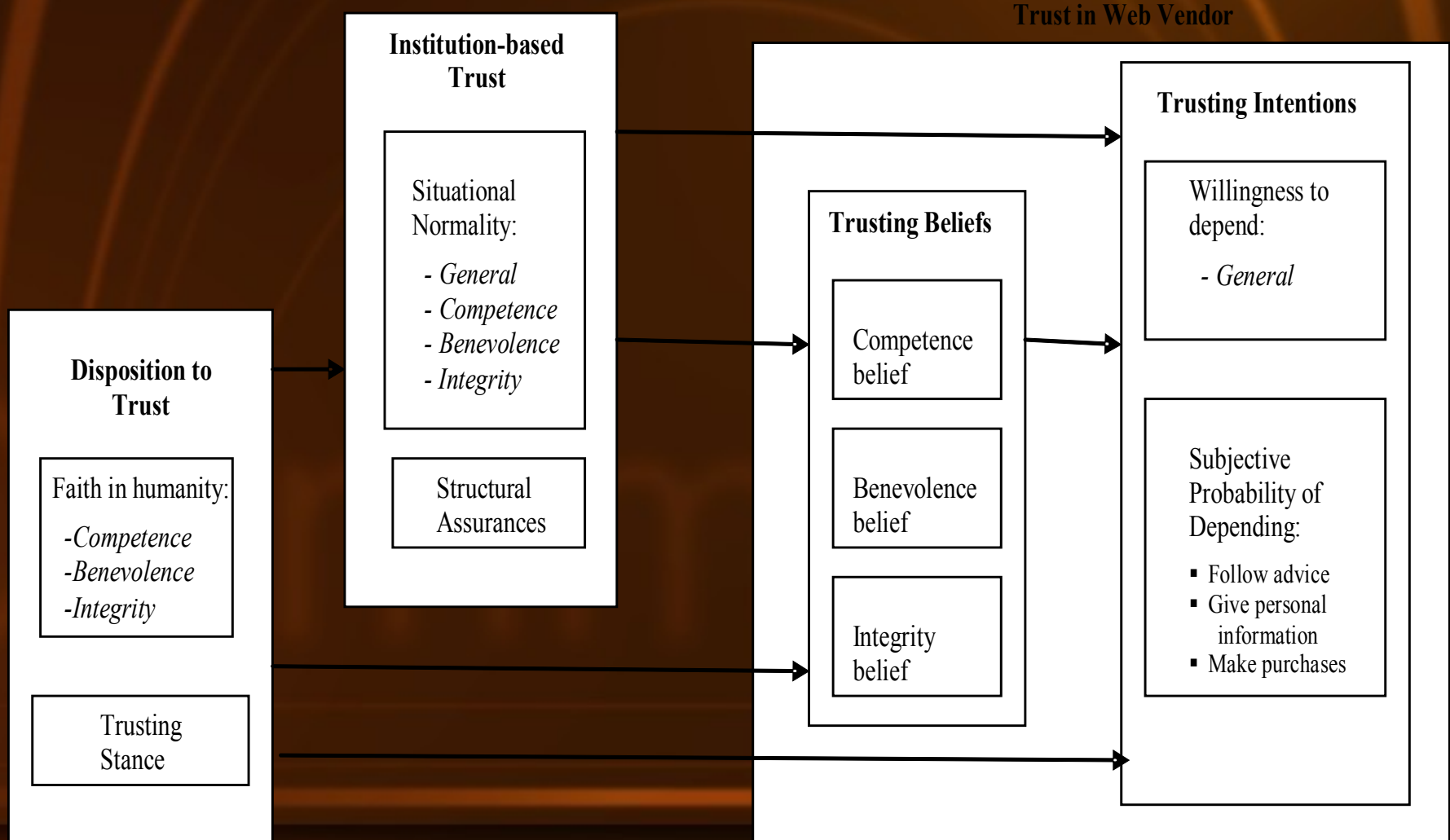
E-Commerce Trust

- Differs from social trust because of relationships are not built over long periods of time and are built with unfamiliar agents
 - Swift Trust or Fragile Trust (Meyerson et al 1996)
- Trust-related issues (Lee & Turban 2001)
 - Quality expectations
 - Resolving disputes fairly
 - Adherence to implied rules of engagement

Initial Trust in E-Commerce

- McKnight et al's (1998) Model presents similar antecedents to trust as Mayer's Model
 - Disposition to trust
 - Trusting beliefs in the trustee's competence, benevolence, and integrity
- Also includes trust associated with conducting transactions over the Internet
 - Situation Normality
 - Structural Assurances

McKnight's Model of Initial Trust in E-Commerce



Trust Mechanisms in Online Auctions

- **Payment Assurance Services**
 - Ensures buyer receives merchandise in good condition before releasing payment to the seller
 - Ensures seller receives payment after sending merchandise to buyer
 - Monetary cost to buyer and seller
- **Escrow Services**
 - Same as payment assurance services but usually used for transactions over \$500
 - Monetary cost to buyer and seller
- **Reputation Feedback Systems**
 - Makes feedback from all users public
 - Rating system is binary and only gives overall rating
 - No monetary cost to buyer and seller

eBay's Feedback Forum

Member Profile: www.flatsigned.com (7949)

Feedback Score: 7949
Positive Feedback: 99.8%

Members who left a positive: 7968
 Members who left a negative: 19
 All positive feedback received: 15821

[Learn about](#) what these numbers mean.

Recent Ratings:

	Past Month	Past 6 Months	Past 12 Months
positive	244	1866	3362
neutral	0	1	3
negative	0	0	0

Bid Retractions (Past 6 months): 0

Member since: Aug-08-98
 Location: United States

- [ID History](#)
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Contact Member

Feedback Received

- [From Buyers](#) [From Sellers](#) [Left for Others](#)

15873 feedback received by www.flatsigned.com (0 mutually withdrawn)

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Comment	From	Date / Time	Item #
great book-excellent service	Buyer indians1951 (1381)	Apr-18-05 11:15	Private
Very Very well packaged and book in A++ Condition	Buyer newkidintown63 (20)	Apr-18-05 10:02	Private
Will be buying more in the future. Very professional business	Buyer 5299barry (3)	Apr-18-05 07:18	Private
Its a pleasure doing business with. Very well organized business.	Buyer 5299barry (3)	Apr-18-05 05:28	Private
brilliant	Buyer rich240270 (3)	Apr-18-05 00:44	Private
Great book fast delivery, thank you A+	Buyer 949darlene (26)	Apr-17-05 10:33	Private
quick delivery; nice product	Buyer yamal (323)	Apr-16-05 08:35	Private
Wonderful purchase. Definitely reccommend. An EBAY plus+++++	Buyer **johnson** (127)	Apr-16-05 05:30	Private
Wonderful purchase. Definitely reccommend. An EBAY plus+++++	Buyer **johnson** (127)	Apr-16-05 05:30	Private

Reputation Feedback Systems

- It is assumed that the feedback is representative of the community but only 52.1% of buyers and 60.6% of sellers submit feedback (Dellarocas 2003)
- Most feedback is positive because of the fear of retaliatory behavior (Dellarocas 2003)
- Model based upon trust transferability

The background is a vibrant orange with a gradient. It features several glowing, semi-transparent arcs that create a sense of depth and movement. Faint, ghostly text is visible in the background, including the words "Theoretical" and "Investigation" in a serif font, which are partially obscured by the glowing lines.

Theoretical Investigation

Conceptual Framework

- Social Theories
 - Uncertainty Avoidance
 - Psychological Contract Violation
- Economic Theories
 - Subjective Expected Utility
 - Instrumentality-Value Model
 - Game Theory

Social Theories

Uncertainty Avoidance

- Based on Hofstede's (2001) work
- Vishwanath's cross-cultural study using online auction websites determined how information affected bidding behavior and bidding values

Conclusions:

- Bidding frequency and bid values increased as more product information was provided especially for the participants in the country with the lowest threshold for uncertainty
- All participants desire some level of risk aversion

Psychological Contract Theory

- Originally began with Chris Argyris' work in employee-employer work relationships
- Current research dominated by Rousseau
- Research on Psychological Contract Violations (PCV) in e-commerce is new and undergoing with Pavlou & Gefen (2005)

Psychological Contracts

- Subjective beliefs that a mutual agreement between an employee and employer exists (Rousseau 1995)
- Comprised of ideas that promises of obligations and expectations will be met (Rousseau 2001)
- Includes expectations of “appropriate treatment” represented by procedural and interactional justice theories (Greenberg & Cropanzano 2001)

Psychological Contract Violations (PCVs)

- Pavlou & Gefen (2005) are conducting research on PCVs in buyer-seller relationships in e-commerce
- Two categories of PCVs that occur
 - Reneging
 - Incongruence
- PCVs occur because the subjective nature of psychological contracts exacerbates the problem of establishing agreement between two strangers with competing objectives and incongruent expectations (Pavlou & Gefen 2005)

Economic Theories

Subjective Expected Utility

When given a choice, the alternative that with the most likely outcome to meet expectations will be selected

(Edwards 1954, Fishbein & Ajzen 1975)

$$SEU = \sum_{i=1}^n SP_i U_i$$

Subjective Expected Utility

SEU - the subjective expected utility

i - the outcome desired

U_i - the value of the outcome

SP_i - the subjective probability of the outcome

n - the number of relevant outcomes

$$SEU = \sum_{i=1}^n SP_i U_i$$

Instrumentality-Value Model

The belief or attitude that the possibility of achieving a desired value or goal is determined how instrumental an “object” is in achieving that desired value. (Rosenberg 1956)

$$A_o = \sum_{i=1}^n I_i V_i$$

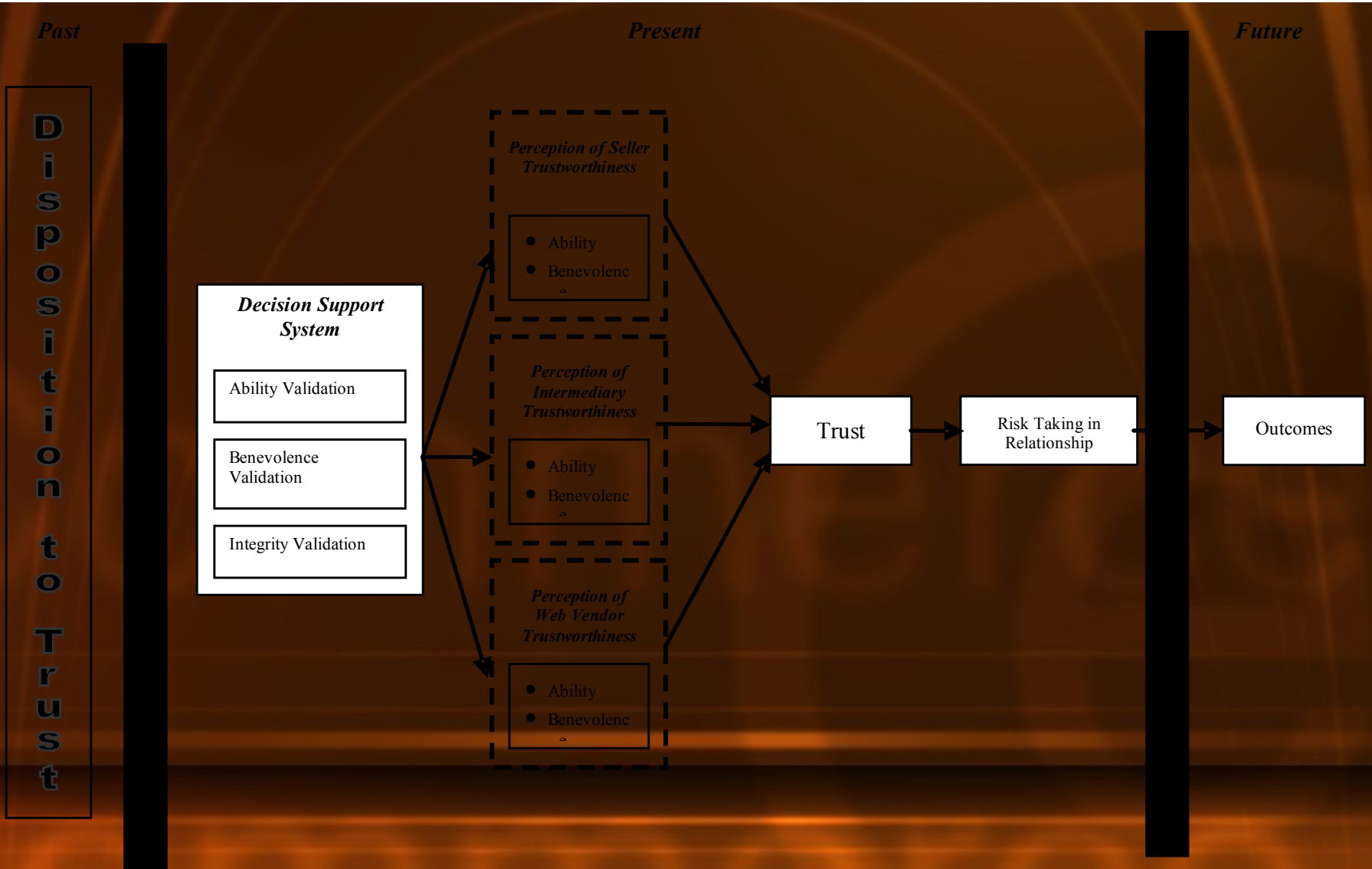
Instrumentality-Value Model

- A_o - the individual's attitude regarding the possibility of achieving a desired goal or value
- i - the outcome desired
- V_i - the value of the outcome
- I_i - the perception of how instrumental an object or person is to achieving the outcome desired
- n - the number of relevant outcomes

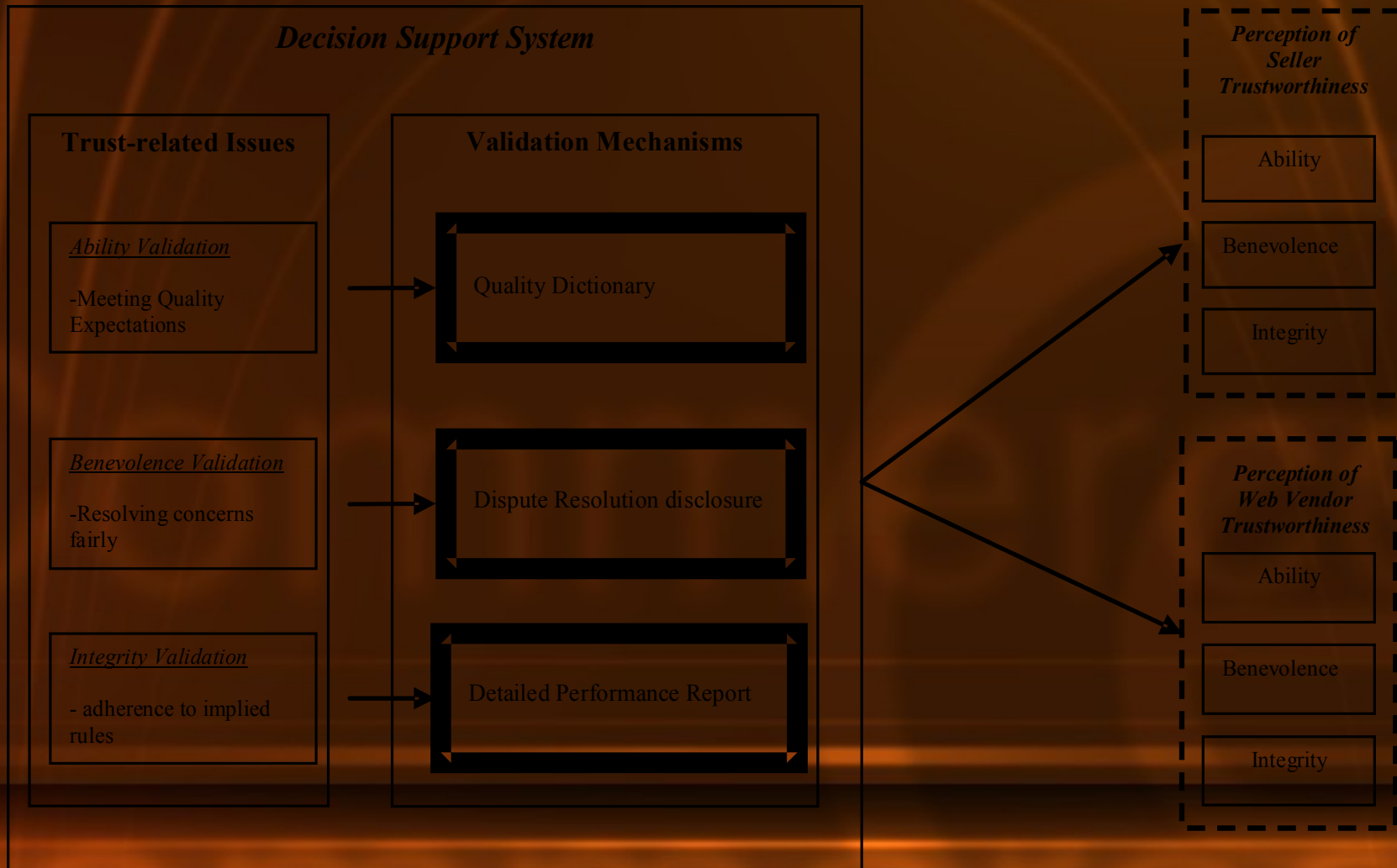
$$A_o = \sum_{i=1}^n I_i V_i$$

Conceptual Model

Conceptual Model



Validation Mechanisms



Ability Validation

Quality Dictionary

- Uses common terms and definitions
- Reduces ambiguity of quality or condition of products
- Helps determine SP_i of alternatives

$$SEU = \sum_{i=1}^n SP_i U_i$$

eBay's Used Books

Microsoft Internet Explorer window: eBay - Books, Nonfiction Books, Fiction Books, Antiquarian Collectible items at low prices

Address: http://books.listings.ebay.com/_W0QQfromZR10QQftrtZ1QQftrvZ1QQga10244Z10425QQsacatZ267QQsocmdZListingItemList

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	MASSIVE CHRISTIAN THEOLOGY RELIGION BIBLE SOFTWARE CD			

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Approaches the condition of a new book. Fine books should be completely without defects, although depending on how old they are, they may show some slight signs of age. Sometimes abbreviated in dealers' descriptions as "F" or "FN."

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Good

Describes the average worn used book that has all pages or leaves present. Sometimes abbreviated as "G."

Fair

The condition of a worn book that has complete text pages (including those with maps or plates) but may lack endpapers, half-title, et cetera -- which should be noted in the book's "comments" section. Binding and jacket (if any) may also be worn.

Poor

Describes a book that is so worn that its only merit is as a reading copy, because it does have the complete text, which must be legible. Any missing maps or plates should still be noted in the book's "comments" section. This copy may be soiled, scuffed, stained, or spotted and may have loose joints, hinges, pages, and so on.

Benevolence Validation

Dispute Resolution Disclosure

- Provides evidence of conduct in disputes
 - Procedural and interactional justice
 - Psychological contract adherence or violation
- Disclosure allows community members to establish social norms
- Helps to determine I_i of alternatives

$$A_o = \sum_{i=1}^n I_i V_i$$

Integrity Validation

Detailed Performance Report

- Provides details on fulfilling obligations
 - Psychological contract adherence or violation
- Helps to determine I_i of alternatives

$$A_o = \sum_{i=1}^n I_i V_i$$

Discussion

- Continued success in e-commerce and online auctions largely depends upon building consumer trust
- Trust-related issues such as quality expectations, fair conduct in dispute resolution, and adherence to implied rules of engagement are not addressed by current trust mechanisms
- Reputation feedback systems may be the most effective method to improve trust in buyer-seller relationships
- Conceptual model validation mechanisms such as quality dictionary, dispute resolution disclosure, and detailed performance report to test propositions

Future Work

- Empirical evaluation in both experimental and field studies
- Development of valid and reliable test instruments to measure trust
- Testing methodology to include two-way evaluation of buyer-seller relationship
- Test subjects include non-users of e-commerce or online auctions to determine apprehension of purchasing online

Questions?

Thank You!